Publications

A list of publications found through keywords search microburst, downburst, and downdraft in personal (e.g., scientist, professor) websites located in the *web_base* file. All websites can be found under the miscellaneous category of the *web_base* file in correct order. Journal listings are as shown on websites.

http://www-personal.engin.umich.edu/~adogan/Papers/atilla_dogan_academic.pdf

Dogan, A. and Kabamba, P.T., "Modified Guidance Laws to Escape Microbursts with Turbulence", to appear in *Mathematical Problems in Engineering*.

Dogan, A. and Kabamba, P.T., "Modified Guidance Laws for Escaping a Microburst with Turbulence", presented in *AIAA Guidance, Navigation and Control Conference*, Denver, Colorado, Aug. 14-17, 2000.

Dogan, A. and Kabamba, P.T., "Escaping a Microburst with Turbulence", presented in 2000 American Control Conference, Chicago, Illinois, Jun. 28-30, 2000.

Dogan, Atilla, "Guidance Strategies for Escaping a Microburst with Turbulence", Ph.D. Thesis, The University of Michigan, Ann Arbor, MI, May 2000.

Dogan, A. and Kabamba, P.T., "Escaping a microburst with turbulence: Altitude, dive and pitch guidance strategies", *AIAA Journal of Aircraft*, v. 37, n. 3, 2000, pp. 417-426.

http://www.cs.mu.oz.au/~sandy

<u>An Agent Network for Microburst Detection</u> by Sandy Dance, in Fifth IEEE workshop on applications of computer vision (WACV2000), December 2000, Palm Springs, CA. p100-105.

http://www.mme.wsu.edu/~grantham/wjg_pubs.html

Grantham, W.J. and Parks, E.K., "A DFW Microburst Model Based on DL-191 Data," *Proc. 29th IEEE Conf. on Decision and Control*, Vol. 2 of 6, Dec., 1990, pp. 695-701.

Grantham, W.J., Roetcisoender, G.G., and Parks, E.K., "DFW Microburst Model Based on AA - 539 Data," *J. of Aircraft*, Vol. 27, No. 11, Nov 1990, pp. 917-922.

Grantham, W.J. and Parks, E.K., "The DFW Microburst: A Two-Dimensional Multiple Vortex Model," AIAA 26th Aerospace Sciences Conf., Reno, Nev., January 11-14, 1987

Grantham, W.J., "ODESSYS: Ordinary Differential Equations Simulation System for Nonlinear Optimization, Controls, and Differential Games," Proc.

http://www.wind.ttu.edu/Library/Publications/Fujita_pubs.htm

- Fujita, T. T., Downbursts and microbursts -- an aviation hazard: Reprints, 19th Conference on Radar Meteorology, Miami. American Meteorological Society, Boston, p. 94-101. [April, 1980] (not published as a separate SMRP report)
- Fujita, T. T., Microbursts as an aviation wind shear hazard: AIAA 19th Aerospace Sciences Meeting, St. Louis. American Institute of Aeronautics and Astronautics, New York, 9 pp. [January, 1981] (not published as a separate SMRP report)
- Forbes, G. S., and Wakimoto, R. M., A concentrated outbreak of tornadoes, downbursts and microbursts, and implications regarding vortex classification: Monthly Weather Review, v. 111(1), p. 220-235. [published January, 1983] (not published as a separate SMRP report)
- Fujita, T. T., Microburst wind shear at New Orleans International Airport, Kenner, Louisiana on July 9, 1982, 39 pp. [January, 1983]
- Fujita, T. T., and Wakimoto, R. M., Microbursts in JAWS depicted by doppler radar, PAM, and aerial photographs: Preprints, 21st Conference on Radar Meteorology, Edmonton. American Meteorological Society, Boston, p. 638-645. [September, 1983] (not published as a separate SMRP report)
- Fujita, T. T., and Wakimoto, R. M., JAWS microbursts revealed by triple-doppler radar, aircraft, and PAM data. Preprint from 13th Conference on Severe Local Storms, p. 97-100. [October, 1983] (not published as a separate SMRP report)
- Smith, B. E., and Waranauskas, B. R., Analysis of wet microbursts by dual-doppler and ground photography. Preprint from 13th Conference on Severe Local Storms, p. 51-54. [October, 1983] (not published as a separate SMRP report)
- Fujita, T. T., Andrews AFB microburst, 38 pp. [December, 1983]
- Wakimoto, R. M., Forecasting dry microburst activity over the high plains: (not published as a separate SMRP report)
- Fujita, T. T., The Downburst, microburst and macroburst. 122 pp. [February, 1985]
- Peterson, E. C., JAWS microbursts occurring from orographic vortex streets. Preprints, 14th Conference on Severe Local Storms, Indianapolis. American Meteorological Society, p. 256-259. [October, 1985]
- Waranauskas, B. R., The rotor microburst: a new explanation of burst swath damage. Preprints, 14th Conference on Severe Local Storms, p. 260-263. [October, 1985] (not published as a separate SMRP report)

- Fujita, T. T., DFW microburst on August 2, 1985. 154 pp. [January, 1986]
- Fujita, T. T., and Black, P. G., Monrovia microburst of 20 July 1986: A study of "SST". Preprints, 15th Conference on Severe Local Storms, Baltimore. American Meteorological Society, Boston, p. 380-383. [February, 1988] (not published as a separate SMRP report)
- Fujita, T. T., In-depth evaluation of doppler and anemometer data for detecting wet microbursts at Huntsville airport. 68 pp. [April, 1988]
- Fujita, T. T., and Smith, B. E., Aerial survey and photography of tornado and microburst damage. 25 pp. [October, 1991]
- Fujita, T. T., 29 June 1990 Streamwood microburst. 29 pp. [December, 1991]
- Fujita, T. T., 1980b. Downbursts and microbursts -- an aviation hazard, *in* Preprints, 19th Conference on Radar Meteorology, Miami: American Meteorological Society, Boston, p. 94-101. [April, 1980] (also SMRP 179)
- Fujita, T. T., 1981f. Microbursts as an aviation wind shear hazard: AIAA 19th Aerospace Sciences Meeting, St. Louis, 9 pp. [January, 1981] (also SMRP 188)
- Fujita, T. T., 1983b. Microburst characteristics. 2nd Wind Shear Meeting, NCAR, 24 pp. [May, 1983]
- Fujita, T. T., and Wakimoto, R. M., 1983c. Microbursts in JAWS depicted by Doppler radar, PAM, and aerial photographs, *in* Preprints, 21st Conference on Radar Meteorology, Edmonton: American Meteorological Society, Boston, p. 638-645. [September, 1983] (also SMRP 200)
- Fujita, T. T., and Wakimoto, R. M., 1983d. JAWS microbursts revealed by triple-Doppler radar, aircraft, and PAM data, *in* Preprints, 13th Conference on Severe Local Storms, Tulsa: American Meteorological Society, Boston, p. 97-100. [October, 1983] (also SMRP 201)
- Fujita, T. T., and Black, P. G., 1988b. Monrovia microburst of 20 July 1986: a study of "SST", *in* Preprints, 15th Conference on Severe Local Storms, Baltimore: American Meteorological Society, Boston, p. 380-383. [February, 1988] (also SMRP 219)
- Fujita, T., 1993a. Microburst at Haneda Airport and Mobara tornado of 11 December, 1990: Weather Service Bulletin, v. 60(1), p. 31-42. (in Japanese) [presented November, 1991; published January, 1993]

- Fujita, T. T., and Smith, B. E., 1993c. Aerial survey and photography of tornado and microburst damage: American Geophysical Union, Geophysical Monograph 79, p. 479-493. [presented April, 1991; published 1993] (first issued as SMRP 235)
- Fujita, T. T., 1983c. Detection of microbursts by single doppler radar, 9 pp. [March, 1983]
- Fujita, T. T., 1984a. Andrews AFB microburst on 01 August 1983. The impact of weather on aviation safety. Hearings before the subcommittee on investigations and oversight, 97th Congress, 1st Session and 98th Congress, 1st Session: U.S. Government Printing Office, p. 475-477.
- Fujita, T. T., [c. 1984d]. Downburst storms, microbursts and macrobursts, reports of NIMROD and JAWS projects: Report to NSF [?], c. 170 pp.
- [Fujita, T. T.], [1985a]. List of hurricanes analyzed and published in Storm Data (October, 1983 to September, 1984): Report to
- Fujita, T. T., 1985c. Statistics of U.S. downbursts and microbursts in NIMROD, JAWS, and FLOWS, 17 pp.
- Fujita, T. T., 1990f. Review meeting of microburst-detection algorithms on 18 April 1990 at the University of Chicago: Report to MIT Lincoln Labs, 4 pp. [April, 1990]
- Fujita, T. T., 1992a. Microburst, the most probable cause of the CASA accident near Mayaguez Airport: Preliminary report for Climatological Consulting Corporation, Asheville, NC, 41 pp. [October, 1992]
- Fujita, T. T., Haggard, W. H., and Bohan, W. A., 1992b. Puerto Rico's weather on June 7, 1992 related to the crash of Executive Air
- Fujita, T. T., 1993c. Precursor, detection, and warning of microbursts. Final Techinal report to NCAR, NSF/UCAR grant S9129, 47 pp. [June, 1993]
- Haggard, W. H., and Fujita, T. T., 1994b. The LLWAS at Charlotte, North Carolina in relation to the microburst of July 2, 1994, Report to the Air Line Pilots Association: Climatological Consulting Corporation, Asheville, NC, 37 pp. [September, 1994]
- Fujita, T. T., and Haggard, W. H., 1995b. The microburst at Charlotte, North Carolina in relation to the crash of USAir 1016 on July 2, 1994, Report to the Air Line Pilots Association: Climatological Consulting Corporation, Asheville, NC, 26 pp. [January, 1995]
- Fujita, T. T., Study of Microburst detection features. Monthly informal and final reports. MIT Lincoln Laboratory contract F 19628-85-C-0002. July, 1987 September, 1990.

- Fujita, T. T., [1977]. Independence Day downbursts. (map)
- Fujita, T. T., Forbes, G. S., Stiegler, D., Pearl, E. W., and Wakimoto, R., [1978]. Examples of downbursts, 8 pp. (map)
- 137 Fujita, T. T., Spearhead echo and downburst near the approach end of a John F. Kennedy Airport runway, New York City, 51 pp. [March, 1976; 2nd printing September, 1976]
- Fujita, T. T., and Byers, H. R., Spearhead echo and downburst in the crash of an airliner: Monthly Weather Review, v. 105, p. 129-146. [published February, 1977] (not published as a separate SMRP report)
- Fujita, T. T., Manual of downburst identification for project NIMROD, 104 pp. [May, 1978]
- Forbes, G. S., and Wakimoto, R. M., Downbursts and tornadoes of 6 August 1977 near Springfield, Illinois, 50 pp. [November, 1978]
- Fujita, T. T., Miso-scale structure of downbursts depicted by doppler radar, 19 pp. [April, 1980]
- Fujita, T. T., and Wakimoto, R. M., Five scales of airflow associated with a series of downbursts on 16 July, 1980: Monthly Weather Review, v. 109, p. 1438-1456. [published July, 1981] (not published as a separate SMRP report)
- Fujita, T. T., Tornadoes and downbursts in the context of generalized planetary scales: Journal of the Atmospheric Sciences, v. 38, p. 1511-1534. [published August, 1981] (not published as a separate SMRP report)
- Fujita, T. T., Mesoscale aspects of convective storms. 8 pp. [August, 1981]
- Fujita, T. T., Downbursts: Meteorological features and wind field characteristics: Journal of Wind Engineering and Industrial Aerodynamics, v. 36, p. 75-86. [1990] (not published as a separate SMRP report)
- Fujita, T. T., Northern hemisphere cyclones, Jun 84 May 85. 92 pp. [June, 1989]
- Fujita, T. T., and Byers, H. R., 1977a. Spearhead echo and downburst in the crash of an airliner: Monthly Weather Review, v. 105(2), p. 129-146. [submitted June, 1976; published February, 1977] (also SMRP 147)
- Fujita, T. T., 1977b. Anticyclonic tornadoes: Weatherwise, v. 30(2), p. 51-64. [published April, 1977] (reprinted as SMRP 146)

- Fujita, T. T., 1977d. Downburst, in Safety Needs in the Terminal Environment, *in* Proceedings of the 30th Annual International Air Safety Seminar, Ottawa: Flight Safety Foundation, Inc., Arlington, p. 184-188 [presented September, 1977]
- Fujita, T. T., and Wakimoto, R. M., 1981h. Five scales of airflow associated with a series of downbursts on 16 July 1980: Monthly Weather Review, v. 109(7), p. 1438-1456. [submitted September, 1980; published July, 1981] (also SMRP 184)
- Fujita, T. T., 1981i. Tornadoes and downbursts in the context of generalized planetary scales: Journal of the Atmospheric Sciences, v. 38(8), p. 1511-1534. [submitted December, 1980; published August, 1981] (also SMRP 190)
- Fujita, T. T., 1981k. Downburst (X. Z. Zhang, translator). Qi Xiang Press, Beijing, 99 pp. (in Chinese) [translation of SMRP 156] [published November, 1981]
- Fujita, T., 1985a. The Downburst (T. Ueda, translator). Japan Airlines Pilots' Association, Tokyo, 160 pp. (in Japanese) [May, 1985] [translation of SMRP 210]
- Fujita, T. T., 1989a. Downbursts: meteorological features and wind field characteristics, *in* Kareem, A., ed., Proceedings of the 6th U.S. National Conference on Wind Engineering, v. 1, Houston: University of Houston, Houston, p. TLI1-TLI12. [March, 1989] (first issued as SMRP 227)
- Fujita, T. T., [1977i?]. Thunderstorm downbursts an important structural and aviation hazard, 8 pp.
- Fujita, T. T., [c. 1984d]. Downburst storms, microbursts and macrobursts, reports of NIMROD and JAWS projects: Report to NSF [?], c. 170 pp.
- Fujita, T. T., Tecson, J., and Smith, B., 1987. Training materials on downburst phenomena: Report to NOAA, 19 pp. + 73 slides [June, 1987]
- Fujita, T. T., 1985c. Statistics of U.S. downbursts and microbursts in NIMROD, JAWS, and FLOWS, 17 pp.
- Fujita, T. T., Tecson, J., and Smith, B., 1987. Training materials on downburst phenomena: Report to NOAA, 19 pp. + 73 slides [June, 1987]
- [Fujita, T. T., and Stiegler, D. S.], [1989a]. Mini-studies of satellite photos showing parent clouds of hurricanes, tornadoes, downbursts, and snowstorms Storm Data, outstanding storms of the month: Report to NOAA, 135 pp.
- [Fujita, T. T., and Steigler, D. S.], [1990e]. Mini-studies of satellite photos showing parent clouds of hurricanes, tornadoes, downbursts, and snowstorms Storm Data, outstanding storms of the month: Report to NOAA, 143 pp.

http://www.bom.gov.au/bmrc/wefor/staff/sandy/sdance.htm

Microburst Detection using Agent Networks by Sandy Dance and Rodney Potts, *Journal of Atmospheric and Oceanic Technology*, vol 19 no 5, May 2002, p646-653.

http://www.tacc.utexas.edu/~kelly/resume.html

Research Assistant II, Computational Fluid Dynamics Laboratory (CFDL), 1998 - May, 2000

I also incorporated a public domain ray tracer (POVRAY) into the DIVA software to allow for high quality animations. This software was used to create an animation of the simulation of a notionaltiltrotor configuration in icing and microburst conditions.

"Animation of the notional tiltrotor configuration in icing and microburst conditions."

http://www.albany.edu/cpr/stewart/

Lusk, C.M., Stewart, T.R., Hammond, K.R. and Potts, R.J. (1990). Judgment and decision making in dynamic tasks: The case of forecasting the microburst, *Weather and Forecasting*, **5**, 627-639.

http://www.weather.nps.navy.mil/faculty/pubs2002/McCarthy-CV.html

McCarthy, J., and W. Sand, 1990: Controller and pilot decision making in transmitting and receiving microburst wind shear alerts from an advanced terminal wind shear detection system. Proceedings, Conference on Weather Radar and Flight Safety, Taipei, Taiwan, Republic of China, 10-11 May 1990. Civil Aeronautics Administration M.O.C., Taipei, Taiwan, 197-206. Also presented at ICAO Human Factors Seminar, Leningrad, USSR. Available through the National Technical Information Service, Springfield, Virginia 22161.

Sand, W., and J. McCarthy, 1990: Microburst wind shear: Integration of ground-based sensors to produce effective aircraft avoidance. Presented at the Royal Aeronautical Society's One Day Conference on Wind Shear, 1 November 1990, London England. Available through the National Technical Information Service, Springfield, Virginia 22161.

Elmore, K.L., and J. McCarthy, 1989: A Statistical Characterization of Denver-Area Microbursts. DOT/FAA /NR-92/13 Technical Report. Available through the National Technical Information Service, Springfield, Virginia 22161.

Elmore, K.L., J. McCarthy, W. Frost* and H.P. Chang*, 1986: A high resolution spatial and temporal multiple Doppler analysis of a microburst and its application to aircraft flight simulation. J. Clim. Appl. Meteor., 25, 1398-1425. Also, Final Report to FAA under contract no. DTFA01-82-Y-10513.

Frost, W.*, H.P. Chang*, K.L. Elmore and J. McCarthy, 1985: Microburst wind shear models from Joint Airport Weather Studies (JAWS). Final Report No. DOT/FAA/PM-85-18 to FAA under contract no. DTFA01-82-Y-10513. National Technical Information Service, Springfield, Va., 197 pp.

McCarthy, J., and J. Wilson, 1985: The Classify, Locate, and Avoid Wind Shear (CLAWS)project at Denver's Stapleton International Airport: Operational testing of terminal weather hazard warnings with an emphasis on microburst wind shear. Preprints, 2nd Intl. Conference on the Aviation Weather System, Montreal, Quebec, Canada, 19-21 June. Amer. Meteor. Soc., Boston, Mass., 247-256.

Roberts, R.D., and J. McCarthy, 1985: Severe wind flow of small spatial and temporal scales: The microburst and related phenomena. Proceedings, NASA Symposium on Global Wind Measurements, NASA, Columbia, Maryland, 29 July-1 August. A. Deepak Publishing, Hampton, Va., 53-58.

McCarthy, J., 1984: Recommendations for coping with microburst wind shear: An aviation hazard. J. of Air Law and Commerce, 49(2), 337-359.

McCarthy, J., and K. Elmore, 1984: East-west Flight 752 on 31 May 1974: A postscript of an accident at Bathhurst, NSW, in the JAWS microburst windshear context. Aviation Safety Digest, Department of Transport, Canberra City, Australia.

McCarthy, J., and R. Serafin, 1984: The microburst: Hazard to aircraft. Weatherwise, 37(3), 120-127.

McCarthy, J., and J.W. Wilson, 1984: The microburst as a hazard to aviation: Structure, mechanisms, climatology, and nowcasting. Preprints, Nowcasting II Symposium, Norrkoping, Sweden, 2-7 September. European Space Agency, Scientific and Technical Publications Branch, Noordwijk, The Nederlands, 21-30.

Wilson, J.W., R.D. Roberts, C. Kessinger and J. McCarthy, 1984: Microburst wind structure and evaluation of Doppler radar for airport wind shear detection. J. Clim. and Appl. Meteor., 23(6), 898-915.

Caracena*, F., J. McCarthy and J.A. Flueck*, 1983: Forecasting the likelihood of microbursts along the Front Range of Colorado. Preprints, 13th Conference on Severe Local Storms, Tulsa, Okla., 17-20 October. Amer. Meteor. Soc., Boston, Mass., 261-264.

Frost*, W., H.P. Chang*, J. McCarthy and K. Elmore, 1983: Aircraft performance in a JAWS microburst. Preprints, 21st Conference on Radar Meteorology, Edmonton, Alberta, Canada, 19-23 September. Amer. Meteor. Soc., Boston, Mass., 630-637.

McCarthy, J., 1983: Microburst wind shear: An aviation hazard. Paper presented at the 89th Military Airlift Wing, Andrews Air Force Base, Maryland, 5 December.

McCarthy, J., R. Roberts and W. Schreiber, 1983: JAWS data collection, analysis highlights, and microburst statistics. Preprints, 21st Conference on Radar Meteorology, Edmonton, Alberta, Canada, 19-23 September. Amer. Meteor. Soc., Boston, Mass., 596-601.

http://www.mae.cornell.edu/Psiaki/psiaki_papers.html

M.L. Psiaki and K. Park, "Thrust Laws for Microburst Wind Shear Penetration," **Journal of Guidance, Control, and Dynamics**, Vol. 15, No. 4, July-Aug. 1992, pp. 968-975. (Also in *Proceedings of the 1989 AIAA Guidance, Navigation, and Controls Conf.*)

M.L. Psiaki and R.F. Stengel, "Optimal Aircraft Performance During Microburst Encounter," **Journal of Guidance, Control, and Dynamics**, Vol. 14, No. 2, March-April 1991, pp. 440-446. (Also in *Proceedings of the 1988 AIAA Guidance, Navigation, and Controls Conf.*)

M.L. Psiaki, "Control of Flight Through Microburst Wind Shear Using Deterministic Trajectory Optimization," Ph.D. Dissertation, Princeton University, Oct. 1987.

M.L. Psiaki and R.F. Stengel, "Optimal Flight Paths Through Microburst Wind Profiles," **Journal of Aircraft**, Vol. 23, No. 8, August 1986, pp. 629-635. (Also in *Proceedings of the 1985 AIAA Guidance, Navigation, and Controls Conf.*)

M.L. Psiaki and R.F. Stengel, "Analysis of Aircraft Control Strategies for Microburst Encounter," **Journal of Guidance, Control, and Dynamics**, Vol. 8, No. 5, Sept.-Oct. 1985, pp. 553-559. (Also in *Proceedings of the 1984 AIAA Aerospace Sciences Meeting*)

http://www.princeton.edu/~stengel/RobPubs.html

Target Pitch Angle for the Microburst Escape Maneuver, *J. Aircraft*, Vol. 30, No. 6, Nov-Dec 1993, pp. 826-832. (with S. Mulgund).

Optimal Recovery from Microburst Wind Shear, *J. Guidance, Control, and Dynamics*, Vol. 16, No. 6, Nov-Dec 1993, pp. 1010-1017. (with S. Mulgund).

http://ae.atmos.uah.edu/AE/refs.html

Goodman, S. J., D. E. Buechler, and P. D. Wright, Lightning and precipitation history of a microburst-producing storm, *Geophys. Res. Lett.*, **15**, 1185--1188, 1988.

A publication (or report) of the University of Louisiana at Monroe pursuant to an Outreach Program Agreement with the University Corporation for Atmospheric Research and pursuant to National Oceanic and Atmospheric Administration Award No. NA17WD2383. <u>Preliminary Investigation of Observed Microburst Characteristics and Forecasting Methods.</u>